

ABSTRACT

A method and system for verifying computer system drivers such as kernel mode drivers. A driver verifier sets up tests for specified drivers and monitors the driver's behavior for selected violations that cause system crashes. In one test, the driver verifier allocates a driver's memory pool allocations from a special pool bounded by inaccessible memory space to test for the driver's accessing memory outside of the allocation. The driver verifier also marks the space as inaccessible when it is deallocated, detecting a driver that accesses deallocated space. The driver verifier may also provide extreme memory pressure on a specific driver, or randomly fail requests for pool memory. The driver verifier also checks call parameters for violations, performs checks to ensure a driver cleans up timers when deallocating memory and cleans up memory and other resources when unloaded. An I/O verifier is also described for verifying drivers use of I/O request packets.